THE EFFECT OF OMKAR CHANTING AND PRANAYAMA ON CONCENTRATION MEMORY POWER AND LEVEL OF FATIGUE ON HIGH SCHOOL GIRLS STUDENTS

SYNOPSIS

SUBMITTED TO

KARNATAKA STATE AKKAMAHADEVI WOMEN'S

UNIVERSITY,VIJAYAPURA,

For the award of the degree of

DOCTOR OF PHILOSOPHYIN

PHYSICAL EDUCATION

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2022

1. INTRODUCTION

Adolescence is the point of transition involving childhood and adulthood. It engages the physical and psychological growth and development of a person during the puberty period, which is usually marked by the teenage years. The ages of ten to twenty-four are generally said to be the adolescence period. During this period, the changes are associated with new risks and opportunities and are responsible for the positive and negative influences on a person's mindset and behaviour.

Social developments include maintaining and developing an identity, along with cultural and belief developments. There is a sense of awareness towards others living in society. The lifestyle of an adolescent is determined by their assigned roles in the family as well as society. These are the years determining how a person will turn out in the future, as derived from their psychological and behavioural characteristics. They are exposed to both positive and negative influences during this period. In a few cases, adolescents choose the negative path, whereas some cannot take the mental pressure or bear with the social phobias.

Adolescent age: Yoga is beneficial to children. Previous studies show that programme-related yoga found that these programmes reduce children's aggressive behaviour, social withdrawal, and hyperactivity. Yoga was effective because it seemed to play to the strengths of children and also reduce stress (Kristie Patten Koenig).

According to NPE (1986), it is very rightly mentioned that "Sports and physical education are an integral part of the learning process and will be included in the evaluation of performance. A nation-wide infrastructure for physical education, sports and games will be built into the educational edifice." Promotion of yoga in schools is also one of the sponsored programmes of the scheme.

Concentration is the ability to direct one's attention in accordance with one's will. It means control of attention. It is the ability to focus the mind on one subject, object, or thought without being distracted. Concentration is a prerequisite for success within the teaching-learning process. Concentration is like a muscle that requires regular exercise to strengthen. Some kids are born 'stronger' in this area than others, but all kids can learn strategies and engage in practises that help improve their ability to focus and sustain their attention. The ability to direct our attention and ignore

distractions is a skill that improves during adolescence, possibly due to underlying changes in the brain. Several research studies point to exercise being beneficial to schoolchildren's concentration. Rest and relaxation are, of course, important for concentration-so balance home learning with downtime.

In the absence of memory, a vital facet of human life becomes almost worthless. It is an individual's capacity to retain the learnt material for a longer period of time and reproduce it through recognition or recall when required. According to Squire (2009), memory is defined as **"**the faculty of encoding, storing, and retrieving information." Psychologists have found that memory includes three important categories: sensory, short-term, and long-term.

Regularly not getting enough sleep leads to chronic sleep deprivation. This can have dramatic effects on a teenager's life, impacting their mental wellbeing and increasing their risk of depression, anxiety, and low self-esteem. It can also affect academic performance at school. This research deals with bringing into light the factors that lead to the inefficiency of students in academics and the major factors that lead to fatigue and suggests types of techniques or measures like Omkar Chanting and Pranayama, so as to reduce their fatigue and motivate them to attend classes and concentrate in the class with a higher efficiency. In pranayama, the mind is centred on the breath as it streams all through the body. Oxygen and prana (energy) are additionally expanded in the body and mind by the guidelines of breath. In this manner, pranayama builds cognitive abilities like memory and concentration. Thus, regular practise of Omkar chanting trains the body to exhale slowly and continuously. Inhalation and exhalation become a smooth cycle where exhalation is made longer.

1.1 STATEMENT OF THE RESEARCH PROBLEM

The topic identified for the present research is as follows:

"**EFFECT OF OMKAR CHANTING AND PRANAYAMA ON CONCENTRATION, MEMORY POWER AND LEVEL OF FATIGUE ON HIGH SCHOOL GIRLS STUDENTS"**

1.2 PURPOSE OF THE STUDY

The purpose of this study was to determine the effect of Omkar Chanting and Pranayama on concentration, memory Power and level of fatigue on high school girls.

1.3 OBJECTIVES OF THE STUDY

The following objectives are set for the present investigation:

1. To identify the cognitive abilities that is Concentration, Memory Power, Level of Fatigue after the intervention of sixteen weeks practice of Omkar Chanting.
2. To know the status of cognitive abilities such as Concentration, Memory Power, Level of Fatigue after the intervention of sixteen weeks practice of Pranayama.
3. To examine the beneficial effect of Cognitive abilities like Concentration, Memory Power, Level of Fatigue before and after the intervention of 'Omkar' chanting, Practice of Pranayama and non-training of high school girls of OCG, PG and CG groups separately.
4. To compare the Cognitive variables like Concentration, Memory Power and level of Fatigue due to practice of sixteen week of Pranayama and Omkar Chanting practice.

1.4 DELIMITATIONS

The delimitations of this study were as follows:

1. The investigation was restricted to high school girls in Bagalkot City.
2. This research was confined to Bagalkot city itself.
3. 90 (Ninety) high school girls were selected as subjects for investigation. Each group contains 30 subjects and divided into 3 (three) groups, out of which 30 were Group-A: OCG group), 30 Group-B: PG group and 30 as a control group Group-C.
4. The age of the identified participants would was delimited to 14 to 16 years only and they are healthy personality and normal conditions.
5. The assessment of the participants was done only for abilities of concentration, memory power and level of fatigue.

6. Chanting of 'Omkar' of Pranayama with breathing exercises were considered as treatments and these experimental period was delimited to 16 (sixteen) weeks.

1.5 LIMITATIONS

Limitations are those which are beyond control of researcher. The limitation of present investigation was as follows:

1. The heredity and geographical conditions which influence the criterion variables were not considered during this research recognized as major limitation.
2. The investigator was based upon some trained assistants for the intention of collection of data. Although reliability of the tests was assessed, the investigation still considered it as a limitation.
3. The interest of the subjects which prevailed during the training session as could not be controlled.
4. The data on criterion variables of subjects considered based on their perception and it as a limitation of research. Certain factors like food habits, life style, daily routine style, diet and climatic condition of the participants could not be controlled by the researcher as main limitation of research.

1.6 HYPOTHESES

It was hypothesized that

On the basis of the objectives of the study and literature available so far, it was hypothesized that:

1. It was hypothesized that there was significant effect on Cognitive Variables like concentration, memory power, level of fatigue of high school girls as a result of sixteen week of practice of omkar chanting.
2. It was hypothesized that there was significant changes on cognitive variables like concentration, memory power, level of fatigue of high school girls as a result of sixteen week of practice of pranayama exercises.
3. It was hypothesized that there was significant changes on cognitive variables namely concentration, memory power, level of fatigue of control and

experimental groups of pre, post and adjusted test scores of high school girls as a result of sixteen week of practice of Omkar Chanting and Pranayama exercises.

4. It was hypothesized that there was no significant improvement in cognitive variables like concentration, memory power and level of fatigue of high school girls due to practice of sixteen weeks practice of Omkar Chanting and Pranayama Group.

1.7 SIGNIFICANCE OF THE STUDY

The researcher hopes this investigation can give contribution to the Physical Education and Sports as well as yoga.

1. The results would be highlighted the importance of chanting of Omkar and practice of Pranayama on developing of abilities like concentration, memory power, Level of Fatigue of high school girls.
2. The study can provide scientific base and guidance to the physical teachers, yoga masters/trainers and practitioners to understand the importance of Omkar Chanting and Pranayama breathing on Concentration, developing Memory power and Level of Fatigue among high school girls.
3. This research gave some basic knowledge to the sports scientist to conduct further research in the area of cognitive abilities and psychological characteristics.
4. The results can be add to the quantum of the knowledge in the area of sports training and psychology and its improvement through Omkar chanting and Pranayama breathing of the sports persons.

1.8 DEFINITION OF TERMS

The following are the definition and terms explanation were considered for the present Investigation was as follows

High School Girls

A High school student means a person in full-time attendance at a high school recognized by Karnataka Secondary Education Examination Board (KSEEB). In the present investigation high school girls from VIII and IX standard studying in Sri

Basaveshwar Girls High School Bagalket, Karnataka, India (Private Aided Institution) was considered and the age range between 14 to 16 years.

Yoga

According to Patanjali, "Yoga means integration at all possible levels." Yoga practices such as Asanas, Chanting of Omkara, Pranayama, Meditation, Bandha, Kriya and Mudra are intended to calm down the psycho-cognitive mechanism of the participants. Omkara Chanting and practice of Pranayama were considered for the present investigation.

Omkara Chanting

In the present investigation, the chanting of 'Omkara' refers a sound 'A' ''U' and 'M' in a rhythm. After a deep breath in, the participants' breathes out with the 'A' ''U' and 'M' sounds in a rhythm. This sound was referred as Omkar chanting in the current investigation. Chanting of Omkara was considered as one of the independent variable by the investigator in this study to identify the effect of these practices on concentration, memory power and fatigue level of high school girls.

Pranayama

"Pranayama is a system of techniques was used to harness and manipulate universal energy identified as *'*prana*.'* It is a fundamental aspect of yoga, regularly included into asana practice or worn as a beginning step for meditation.

It is method to extend and expand one's vital life force energy through deliberate breath control. The pranayama technique was similar to breathing through the nostrils in a specific pattern of inhalation, breaths retention and exhalation. Pranayama types namely Bhastrika, Bhramari, Nadi-shodhana, Shitkari nd Shitali etc. In the present investigation, nadi-shodhana, shitali, shitakari and bhramai pranayama breathing techniques were elected.

Concentration

Concentration is the ability to express individual's attention in accordance with one's will. Concentration means 'control of the attention'. The word concentration means focusing one's thoughts and attention on one thing or thought. It is the ability to focus the mind on one subject, object or thought without being distracted.

Concentration is the ability to focus the mind on one's subject or object or thought and at the same time keep out from the mind every other dissimilar thoughts ideas, feelings and sensations. In the present study, Concentration of high school girls measured through Letter Cancellation Tasks (Kumar and Telles, 2009).

Memory Power

According to Suire (2009), Memory defined as "the faculty of encoding, storing, and retrieving information"

Memory is the way by which one can draw on his/her past experience in order to use this information in the present. Memory encompass the facts and experiential details that one can consciously call to his mind as well as ingrained knowledge that surface without effort or even awareness.

Memory power is the power to retain and recall information and past experiences. In the present investigation, memory in terms of sub tests like remote memory, recent memory, mental balance, attention or concentration, delayed recall, immediate recall (sequential reproduction of sentences), retention of similar pairs, retention for dissimilar pairs, visual retention and recognition were tested through PGI-MS scale by Pershad D, and S.K. Verma (1990).

Fatigue

Fatigue is the weakening of a material caused by repeatedly applied loads. It is the progressive and localized structural damage that occurs when a material is subjected to cyclic loading. In the present study fatigue level considered to measure the health related quality of life of high school girls by administering Peds-QL Inventory by James W. Varni (1990).

2. REVIEW OF RELATED LITERATURE

The related literature reviewed for better understanding of the problem and to interpret the result systematically which is presented in this section. The reviews were collected from various sources like books, journals, and periodicals and provide background information to the study and help us to understand various concepts of omkar chanting and pranayama on concentration, memory power, level of fatigue on high school girls.

2.2 REVIEWS RELATED TO CHANTING

Singh et al. (2019) studied to know the effect of Pranayama and 'OM' meditation on Visual Reaction Time (VRT) and stress level among medical students. In this research VRT stress level were measured to examine the health benefits of yoga as these students under constant pressure to achieve well. Yoga is an inexpensive, valuable source of getting a healthy mind and healthy body. Yoga practiced in the way of pranayama breathing and meditation for 15 (fifteen) days regularly by thirty (30) medical students from Santosh Medical College of Ghaziabad. The Visual Reaction Time (VRT) was measured by Online Reaction Test. Stress level was assessed by administering STAI - A (Form Y-1). The scores were taken before and after practicing yogic exercises. Statistical techniques was done utilised by using paired 't' test. It was seen that Visual Reaction Time (VRT) and Stress level scores reduced considerably after performing of pranayama breathing and 'OM' meditation

Jose and Jose (2019) examined advantageous effects of 'OM' Chanting on Spatial Memory also Verbal Memory among young adults having 'Type-D' Personality. This research was experimental and the elected subjects were a total of forty (40) young adults having 'Type-D' personality, out of which 20 were males and 20 were females. After getting written acquainted consent, the subjects were screened for 'Type-D' personality by using 'DS-14' (Distressed Personality Scale) scale. The subjects were guided to sit in Sukhasana position and to inhale deeply as well as then while exhaling should produce sound of 'OM' chant with the ability to continue until further exhalation is not possible. The 'OM' chanting practiced once in a day during 8.00 AM daily under the supervision of yoga instructor in college premises. The full data before and after 'OM' chanting were collected subjected to statistical techniques. Spatial and verbal memory was assessed by applying Spatial and Verbal Memory

Test. Student ‘t’ test was applied to test the level of confidence at 0.01 level. The outcome proved that considered ‘*OM’* chanting had a significant changes on the Spatial Memory scores and Verbal Memory scores of adults whohave ‘Type-D’ personality.

Harne and Hiwale (2019) investigated to examine the effect of OM mantra as meditation on brain along with Wavelet Analysis (WA) by electing twenty three engineering college students who have healthier and the age range between 20 (twenty) to 22 (twenty two) years as subjects for the investigation. Electroencephalography (EEG) signals were taken before practicing ‘OM’ chanting as meditation and after practicing ‘OM’ chanting meditation. Electroencephalography (EEG) signals were duvuded into Gamma, Beta, Alpha, Theta and Delta bands by applying detailed coefficients. The approximate coefficient found by five levels Wavelet transforms. Further, relative power by applying the Welch method and it was extracted from each band and these were analyzed by applying 2-way repeated (two-way repeated) ANOVA (Analysis of Variance). Findings concluded that increased in theta power and higher theta amplitude in after condition at all regions in comparison to the before the condition of meditation but findings were not found significant. No significant changes were made in other band. Increased theta power in earlier study found a sign of relaxation. Findings revealed that promising output for single-day testing and immediate effect of ‘OM’ chant meditation. The study highlights the significance of ‘OM’ meditation which could work wonders for individual under stress level if he/she adopted as routine daily. As ‘OM’ chanting meditation is simple and it is easiest practice.

Sankara Pitchaiah Podila (2019) studied the Concentration ability and memory ability of high school children. The abilities like concentration and memory are the cognitive abilities. Students who had without classroom concentration, they cannot memorize the information. Student had a good concentration level and without memory it was not be useful. The current research was seen that the level of concentration and memory abilities among VIII, IX and X standard students at high school level. Overall students of 2132, students studying in nine high schools were elected for the research. Out of which, 1352 were boys and 780 were girls. The researcher was preparing simple items/questions for getting student’s response on

concentration and memory. The research showed that majority of boys experiencing higher concentration and less memory problems when compared to girls.

Narayanan and Venugopalan (2018) examined to identify the effect of 'Gayatri mantra' chanting on cognitive functions among school students. 30 (Thirty) healthy, willing and residing hostel students, out of which 15 were boys and 15 were girls between the age group from 11 to 14 years were considered in the investigation. After getting the pre concentration and memory scores, all the subjects were practiced by Chanting 'Gayatri mantra' for a week (Monday to Friday) days by great Veda pundit before beginning of the research. After a week days, the subjects started 'Gayatri mantra' chanting once a day, continued for 5 (five) days a week during early morning time at 6.00 AM under the guidance of great Vedic expert for 10 (ten) minutes for sixteen (16) weeks. Post scores were taken after 16 week training. Output was got in tabular forms. The results showed that there was a significant change in the spatial and verbal memory values of subjects practiced for 16 weeks by the chanting 'Gayatri mantra'.

Karikalan (2018) examined the beneficial effect of pranayama and Omkara chanting in elected psychological factors in physical education college boys. For this purpose, 14 (fourteen) physical education college students and age ranged from 21 to 24 years were elected as a subjects. Pre and post tests scores were taken on the psychological factors namely concentration ability, memory ability and fatigue level. The experimental group was trained for a duration of 6 (six) weeks. The collected data was analysed utilizing descriptive statistics as well as 't'-test. The outcome displays that there exist significant changes in the elected psychological factors namely concentration, memory and fatigue level due to 6 (six) weeks practice of Pranayama and 'Omkara chanting.'

2.3 REVIEWS RELATED TO PRANAYAMA

Kumar and Venkatesh (2021) studied to assess the effect of short term (six weeks practice) training of Bhramari Pranayama breathing on sleeping quality and perceived level of stress among school going students. After obtaining written principled clearance consent, sixty (60) schools going students of class 10th were randomly elected for the research. The expression of agreement from the subjects and also written informed consents from subjects' parents who were also obtained. After

history taken and general physical examinations, 'prior data including evaluation of sleep quality and students perceived level of stress were taken using 'PSQI' scale (by using Battery of Pittsburgh Sleep Quality Index) and PSS Scale (by using Perceived Stress Scale) tools respectively. Thereafter, 'Bhramari' Pranayama was treated by the subjects for 6 (six) weeks regularly. After, 6 (six) weeks practice, sleep quality scores and perceived stress scores were once again taken by applying the above said scales. Pre test and post test scores were compared as well as analyzed by means of descriptive statistics and Student's paired 't'- test (p value <0.05) fixed at 0.05 level of confidence. The output confirmed that the practice of 'Bhramari' Pranayama breathing, there exist considerable improvement in sleep quality and low level of perceived stress. Therefore, presently a few weeks practice of 'Bhramari' Pranayama berathing significantly improved sleep quality and decreasing perceived stress in school going students.

Singh and Maurya (2020) examined the effect of yoga that is pranayama breathing on stress level of degree college going students. Perceived Stress Scale (PSS) constructed and developed by Sheldon Cohen (1994) was considered to assess the perceived stress level perceived by the subjects. The PSS scale was used widely as psychological instrument for assessing the stress level by college students' perception. This was a measure of the level to which situation in individual's life are assessed as stressful level. The age, sex and class of participants were considered as biographical variables. This research was taken on a sample of nine (9) subjects as participants, out of which 6 (six) were male subjects and three (3) were female subjects who are college going UG degree students. The data was gathered from UG degree students in CMP Degree College affiliated to University of Allahabad at Prayagraj. The data was applying by using package of SPSS with Version 16 software. Results seen that out of nine (9) students, 8 students perceived stress level scores was decreased after Pranayam breathing training. Results also observed that there were significant changes in perceived stress scores prior and after Pranayama breathing practice. The participant's mean score related to perceived stress by prior/before and after Pranayam breathing practice was M=23.440 and M=19.880 respectively. This confirms that perceived stress score was decreased after Pranayam practice. This confirms that pranayama breathing exercises helps to reduce stress level of Degree College (UG) going students.

Pandey and Dalal (2020) investigated the effect of nadi shodhan pranayama and yoga-nidra practice on emotional maturity level and level of mental health of male adults. A specific yoga practicing session which selected pranayama like nadi-shodhana pranayama and practice of yoga-nidra was elected as per the framing training schedule. The training schedule was practiced by the subjects daily in morning from 6:00 A.M. to 7:15 A.M. for 30 days (one month). A total number of sample of 30 (thirty) younger adults were selected from the college from Uttrakhand in India. The subjects were administered on administering Emotional Maturity Scale (EMS) and Mental Health Scale (MHS) before and after the training of said interventions. Paired dependent 't'-test technique was applied as statistical technique of the data obtained by administrating the said tests before/pre and after/post the intervention. All the subjects as participants participated the whole intervention training schedule. The yoga practices of nadi-shodhana pranayama and yoga-nidra practicing significantly changed the mental health level and level of emotional maturity. It was confirmed that Nadi-shodhana pranayama practice and practice of yoga-nidra both were improved emotional maturity and mental health of an individuals. Apart from these, the physical benefits and yogic intervention had positive changes on adults' level of mental and emotional well-being.

Malathi and Ramadas (2019) study was examined the role of Pranayama in students' enhancement of memory skills which ill help to leading to better academic success. Yoga is the top lifestyle decreases, which aims to procure the integration of mind, body as well as spirit across asanas i.e. exercise, pranayama i.e. breathing exercises and doing meditation. Young children are the base pillars of the next generation all over the world. The clever and mature children become responsible citizen. This research purposed to provide insight into the division of level of academic stress of young adults, their emotional adjustment and coping mechanism.

Therefore, Pranayama is the best technique of increasing the memory power of children and this is part of yoga system. Pranayama is the formal application of controlling the breath, which is the source of the prana/important life force. Here, swot on pranayama breathing exercises and poses, breathing method as well as sequences. It helps one to regulate one's breathing, improving oxygen level in the body, especially the uniform supply of oxygen to brain. It guide to getting better and

great memory skills among students, as well as giving academic success especially getting higher marks in the examinations.

Singh; Devi and Sangeeta (2018) identify the effect of six week Anulom Viloma Pranayama breathing on elected factors of physiological characteristics of school girls in Chandigarh. For this achievement, 24 (Twenty four) school going girls from Government High School in Sarangpur, Chandigarh were determined. The subjects' age range from 14 to 15 years category, twenty four (24) subjects were split into two groups that is experimental group (n=12) as well as control group (n=12). Experimental group was treated with Anuloma-Viloma Pranayama breathing and controlled group was not given any type of training. The training program was scheduled for 6 (six) weeks by the investigator. The training was forty five (45) minutes practice of pranayama breathing for five (5) days per week. All the said groups were collected pre and post test scores on physiological variables namely vital capacity, systolic BP (blood pressure), diastolic BP (blood pressure), breath hold time, resting pulse rate as well as respiratory rate. The data was calculated by employing paired 't'-examination (dependent). The significance level was fixed at 0.05 level of confidence and statistical on collected data showed that there exist significant changes found on factors of vital capacity, breath hold time, resting pulse counts and cardio respiratory rate. The control group did not showed any changes in the said physiological factors.

2.4 OVERVIEW OF STUDIES

The current research aim is to find out the impact of practice of 'Omkar' Chanting and practice of varied Pranayamas on cognitive factors of Concentration ability, level of Memory Power and Fatigue level of high school girls. A few investigators have been directed research on varied types of chanting like 'omkar', 'vedic mantra', 'gayathri mantra', 'dhyana mantra' and varied pranayama breathing like bhramai, nadi-shodhan anulom viloma, bhastrika, sheetali, shitkari breathing investigating the consequences on psychological variables like depression level, anxiety level, level of stress, autonomic functions; cognitive variables like spatial memory, verbal memory,. brain power, attention brain functions, consideration (mind meandering), speed of visual data handling combination of speed and adaptability, executive functions, emotional maturity, mental health, memory skills, mental balance, mental speed and physiological variables like blood pressure, heart rate, alfa

EEG and Haemoglobin at school college going students adults of both men and women.

However it is truly necessary to explore, particularly on the impact of ‘omkar’ chanting and pranayama on concentration ability, memory power level and fatigue level of high school girls actually exists. Past investigations have indicated constructive outcome of ‘omkar’ chanting (by practicing omkar mantra with breathing exercises) and ‘pranayama’ (by practicing of nadishodhana, sheetali, shitkari, brahmari pranayamas with stretching exercises) on concentration, memory power and fatigue level and no research were demonstrated on said criterion variables. Subsequently, the present research was taken to know the beneficial effect of ‘Omkar’ changing and ‘Prayanama’ on the development of concentration, memory power and fatigue level among high school girls.

3. METHODOLOGY

This chapter deals with the methodological procedure followed by the researcher in various steps like selection of the subjects, experimental design, selection of variables, selection of tests, instruments reliability, competence of the tester, reliability of the data, orientation of the subjects, pilot study, training programme, administration of tests, collection of data and statistical techniques used to analyses the data.

3.1 SELECTION OF THE SUBJECTS

The purpose of the study was to find out the effect of Omkar Chanting and Pranayama on Concentration, Memory Power and level of Fatigue on high school girl students. To achieve this purpose of the study, totally ninety school girls who were not participants of any training during the year 2018-19. They are from Basaveshwara School of Bagalkot, Karnataka, India as the population of the study was randomly selected as subjects. The age of the subjects were ranged between 14 to 16 years.

3.2 SELECTION OF VARIABLES

For the present investigation both dependent and independent variables were selected for the examination of objectives and hypotheses.

3.2.1 Dependent Variables

1. Concentration
2. Memory Power
3. Level of Fatigue

3.2.2 Independent Variable

A successful athlete has an optimal blend of training methods. Training is only a means of achieving success. Hence, the following training methods were selected as independent variables.

1. Omkar Chanting
2. Pranayama

3.3 DESCRIPTION OF TRAINING

For the current investigation, 'Random Group Design' was identified for this investigation as all the participants were identified randomly and divided into three groups equally. Each group were divided equally that is 30 (thirty) participants that 30 x 3 groups. Participants of Group of 'A' underwent chanting of 'Omkar' with standing breathing exercises completed for six days per week for **sixteen** weeks. Participants of Group of 'B' underwent practice of Pranayama that is yogic breathing with 'Nadi-shodhana' Pranayama, 'Sheetali' Pranayama, 'Shitkari' Pranayama and lastly 'Brahmari' breathing exercises along with standing, sitting and laying down breathing exercises completed for six days per week for **sixteen** weeks. Group of 'C' acted as control group who were not involved any additional training apart from their routine curricular activities.

'OMKAR' CHANTING FOR HIGH SCHOOL GIRLS

A week programme (six days in a week) of Omkar chanting, which was previously selected and approved by the experts and yoga guru, guide in the morning under the supervision of respective expert and their assistants who were previously trained and instructed, had been planned scientifically. The training programme on Omkar Chanting Group (OCG) group checked by the researcher and the training schedule mentioned below was administered to the OCG group.

Training Duration	: 16 Weeks
Days	: 6 days a week
Training Session	: Morning
Duration	: 60 Minutes

Omkar Chanting practiced with Starting Prayer (Patanjali Mantra, Dhyana and closing Mantra with Shanti Mantra

Stretching and Breathing Exercises like Squats, Leg Cycling, Lying leg Lift, V-sit, Dips, Lateral Leg Exercises, Quad Stretches, Jumping Jack and Wall Pushups with music. Each exercise was of one minute.

Relaxation : Shavasana

TRAINING PROGRAMME FOR HIGH SCHOOL GIRLS

'OMKAR' CHANTING

EXPERIMENTAL GROUP OF 'A' (OCG)

Weeks	Stretching and Breathing Exercises			Omkar Chanting			Warm up and Cool Exercises	Total Time (In Mints.
	Repetitions	Time Mints.	Rest Mints.	Repetitions	Time Mints.	Rest Mints.		
1 to 4	10 to 15	15	5	12 to 15	20	10	10 Minutes	60
5 to 8	15 to 20	12	3	15 to 18	25	10	10 Minutes	60
9 to 12	21 to 25	12	3	18 to 25	30	5	10 Minutes	60
13 to 16	26 to 30	12	3	25 to 30	30	5	10 Minutes	60

PRANAYAMA BREATHING EXERCISES FOR HIGH SCHOOL GIRLS

A week programme (six days in a week) of Pranayama chanting, which was previously selected and approved by the experts and yoga guru, guide in the morning under the supervision of respective expert and their assistants who were previously trained and instructed, had been planned scientifically. The training programme on Pranayama Group (PG) group checked by the researcher and the training schedule mentioned below was administered to the OCG group.

Training Duration : 16 Weeks

Days : 6 days a week

Training Session : Morning

Duration : 60 Minutes

Pranayama exercises like nadi-shodhana, shitali, shitakari and bhramai pranayama breathing exercises practiced with Prayer (Patanjali Mantra, Dhyana and closing Mantra with Shanti Mantra

Stretching and Breathing Exercises like Squats, Leg Cycling, Lying leg Lift, V-sit, Dips, Lateral Leg Exercises, Quad Stretches, Jumping Jack and Wall Pushups with music. Each exercise was of one minute.

Relaxation: Shavasana.

TRAINING PROGRAMME FOR HIGH SCHOOL GIRLS

'PRANAYAMA'

EXPERIMENTAL GROUP OF 'B' (PG)

Weeks	Stretching and Breathing Exercises			Pranayama			Warm up and Cool Exercises	Total Time (In Mints.
	Repetitions	Time Mints.	Rest Mints.	Repetitions	Time Mints.	Rest Mints.		
1 to 4	10 to 15	15	5	12 to 15	20	10	10 Minutes	60
5 to 8	15 to 20	12	3	15 to 18	25	10	10 Minutes	60
9 to 12	21 to 25	12	3	18 to 25	30	5	10 Minutes	60
13 to 16	26 to 30	12	3	25 to 30	30	5	10 Minutes	60

Group-C: Control Group (CG). This group did not undergo any training.

3.4 SELECTION OF TESTS

As per the available literature, the selected variables were tested by using the following standardized tests and they were presented in Table-3.1

Table-3.1 : Table shows Selection Tests and Criterion Measures

Sl. No.	Variable	Test Procedure	Criterion Measure
1.	Concentration	Letter cancellation Tasks developed by Kumar and Telles (2009)	in scores
2.	Memory Power	PGI Battery of Brain Dysfunction (PGIBBD) by Prashad (Pershad and Wig, 1988) modified by Pershad and Verma (1990)	In scores
3.	Level of Fatigue	Pediatric Quality of Life Multidimensional Fatigue Scale (PedsQL-MFS) developed by James W. Varni	in scores

3.5 STATISTICAL TECHNIQUES USED TO ANALYZE THE DATA

The data collected from the groups before and after the experimental period were statistically examined for significant improvement by using dependent ‘t’ test, ANOVA (Analysis of Variance) and ANCOVA (Analysis of Covariance).

3.5.1 Dependent ‘t’ Test

The dependent (paired) ‘t’ test was use to know the paired means comparison between the two tests that is pre and post test scores on said criterion variables. For the current examination, the collected data on criterion variables were statistically analyzed with dependent ‘t’ test to find out the significant changes between pre and post test mean scores of all treated groups (OCG and PG groups) and control group (CG Group).

3.5.2 Analysis of Variance (One-way ANOVA)

In the initial/prior and final/post collected data of all groups of OCG, PG and CG groups, One-way Analysis of Variance that is ‘F’ test was applied to examine the significant mean changes in the pre-test and post test scores separately among the experimental and control groups on selected variables of high school girls as participants.

3.5.3 Analysis of Covariance (ANCOVA)

Analysis of Covariance was a statistical technique taken to control or adjust for the effect of one or more uncontrolled variables and permit thereby a valued evaluation of the outcomes of the experiment (Ferguson, 1996). This technique was applied when there are one or more correlated variables existed with the dependent variable. The data collected from the three groups (OCG, PG and CG groups) prior/before and after/final the experimental period was statistically examined for significant changes by using analysis of covariance (ANCOVA). Since, the initial mean scores were not matched, comparisons between actual could not be made, all mean scores were adjusted by regression to a common mean. The significance change of paired adjusted scores of final group mean was tested for significance by applying whenever the 'F' ratio was found to be significant, LSD (Least Significant Difference) test was taken as post hoc test analysis to determine which of the paired mean scores differed significantly. In the current test, pre test scores of the said criterion variables namely concentration ability, memory power as well as fatigue level were shown to

correlate with the post test scores and thus they were considered as appropriate covariates.

The above mentioned statistical procedures were analyzed by using Statistical Package of Social Science (SPSS) 24.0 Version and also with MS-Excel 2016 for the purpose of interpretation of the examination. In all cases, the criterion for statistical level was fixed at 0.05 level of significance.

4. ANALYSIS AND INTERPRETATION OF DATA

4.1 ANALYSIS OF DATA

The collected data on selected criterion variables were analyzed and had been presented in this chapter. The purpose of the study was to find out the effect of yogic exercises with Omkar Chanting and Pranayama on chosen variables of concentration, memory power and level of fatigue of high school girls.

To achieve this purpose of the study, totally ninety school girls who were not participants of any training during the year 2018-19. They are from Basaveshwara School of Bagalkot, Karnataka, India as the population of the study was randomly selected as subjects. The age of the subjects were ranged between 14 to 16 years. The elected subjects were randomly assigned to three groups of twenty-eight each such as two experimental groups and one control group without equalization. The selected variables for this study were concentration, memory power, and fatigue level by utilizing standardized questionnaire. The practice of Omkar chanting along with neck exercises, forward and back bending, Shavasana and practice of Pranayama along with standing breathing exercises, sitting breathing exercises, laying down breathing exercises and Shavasana were considered as independent variable.

The selected criterion variable for the present investigation was assessed by the standardized tests and research tool. The data was collected before and immediately after the experiment on all selected criterion variables in the consecutive days.

The collected data were analyzed by dependent ‘t’ test and Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA). Whenever ‘F’ value was to be found significant for adjusted post test, the LSD (Least Significant Difference) test was used as a post hoc test. In all the cases 0.05 level of significance was fixed to test the hypothesis.

4.2 DISCUSSION OF FINDINGS

1. CONCENTRATION

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the concentration

from pre to post test. The concentration increased in OCG Group from pre test (34.566 ± 5.817) to post test (40.433 ± 4.583) and PG Group from pre test (34.000 ± 3.062) to post test (37.800 ± 4.505), the concentration significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the concentration owing to the treatment through PG (11.18%) and the improvement of OCG (16.97%) estimated with scores. In case of Control, no significant improvement (2.55%) was observed. Comparison of adjusted post test mean among the groups showed that PG (37.626) and OCG (39.855) had developing better improvement in concentration than CG (34.285). The high school girls from the PG groups had developed higher concentration levels than the girls from the OCG groups.

2. MEMORY POWER

2.1 Remote Memory

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the remote memory from pre to post test. The remote memory increased in OCG Group from pre test (3.700 ± 1.417) to post test (5.033 ± 0.718) and PG Group from pre test (4.000 ± 1.203) to post test (5.266 ± 0.639), the remote memory significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the remote memory owing to the treatment through PG (31.68%), and the improvement of OCG (36.03%) estimated with Scores. In case of Control, no significant improvement (8.04%) was observed. Comparison of adjusted post test mean among the groups showed that PG (5.258) and OCG (5.039) had developing better improvement in remote memory power than CG (4.037). The high school girls from both OCG and PG experimental groups had developed similar type of remote memory power.

2.2 Recent Memory

The existing investigation elucidated the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the recent memory from pre to post test. The recent memory increased in OCG Group

from pre test (3.533 ± 1.105) to post test (4.400 ± 0.498) and PG Group from pre test (3.600 ± 1.069) to post test (4.433 ± 0.504), the recent memory significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the recent memory owing to the treatment through PG (23.14%), and the improvement of OCG (24.54%) estimated with Scores. In case of Control, no significant improvement (4.91%) was observed. Comparison of adjusted post test mean among the groups showed that PG (4.441) and OCG (4.402) had developing better improvement in recent memory power than CG (3.557). The high school girls from both OCG and PG experimental groups had developed similar type of recent memory power.

2.3 Mental Balance

The present investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the mental balance from pre to post test. The mental balance increased in OCG Group from pre test (5.733 ± 2.066) to post test (6.500 ± 1.458) and PG Group from pre test (5.734 ± 2.066) to post test (7.700 ± 0.876), the mental balance significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the mental balance owing to the treatment through PG (34.31%), and the improvement of OCG (13.38%) estimated with Scores. In case of Control, no significant improvement (9.40%) was observed. Comparison of adjusted post test mean among the groups showed that PG (7.693) and OCG (6.493) had developing better improvement in mental balance power than CG (6.615). The high school girls from the PG groups had developed higher mental balance than the girls from the OCG groups.

2.4 Attention and Concentration

The current investigation expounds the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the attention and concentration from pre to post test. The attention and concentration increased in OCG Group from pre test (8.533 ± 3.963) to post test (9.033 ± 3.306) and PG Group from

pre test (9.900 ± 4.349) to post test (12.266 ± 2.531), the attention and concentration significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the attention and concentration owing to the treatment through PG (23.51%), and the improvement of OCG (5.86%) estimated with Scores. In case of Control, no significant improvement (6.02%) was observed. Comparison of adjusted post test mean among the groups showed that PG (11.953) and OCG (9.153) had developing better improvement in attention and concentration power than CG (8.994). The high school girls from the PG groups had developed higher Attention & Concentration levels than the girls from the OCG groups.

2.5 Delayed Recall Memory

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the delayed recall from pre to post test. The delayed recall increased in OCG Group from pre test (6.400 ± 2.736) to post test (7.133 ± 1.775) and PG Group from pre test (6.666 ± 2.106) to post test (8.133 ± 1.074), the delayed recall significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the delayed recall owing to the treatment through PG (22.01%), and the improvement of OCG (11.45%) estimated with Scores. In case of Control, no significant improvement (4.17%) was observed. Comparison of adjusted post test mean among the groups showed that PG (8.115) and OCG (7.143) had developing better improvement in delayed recall than CG (6.143). The high school girls from the PG groups had developed higher Delayed Recall levels than the girls from the OCG groups.

2.6 Immediate Recall Memory

The current investigation enlightened the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the immediate recall from pre to post test. The immediate recall increased in OCG Group from pre test (8.433 ± 2.595) to post test (8.833 ± 2.198) and PG Group from pre test

(8.566 ± 2.750) to post test (9.866 ± 1.547), the immediate recall significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the immediate recall owing to the treatment through PG (15.18%), and the improvement of OCG (4.74%) estimated with Scores. In case of Control, no significant improvement (3.67%) was observed. Comparison of adjusted post test mean among the groups showed that PG (9.877) and OCG (8.836) had developing better improvement in immediate recall than CG (8.454). The high school girls from the PG groups had developed higher immediate recall memory than the girls from the OCG groups

2.7 Verbal Retention for Similar Pairs

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the verbal retention for similar pairs from pre to post test. The verbal retention for similar pairs increased in OCG Group from pre test (3.933 ± 0.868) to post test (4.766 ± 0.430) and PG Group from pre test (3.866 ± 1.041) to post test (4.133 ± 0.937), the verbal retention for similar pairs significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the verbal retention for similar pairs owing to the treatment through PG (6.91%), and the improvement of OCG (21.18%) estimated with Scores. In case of Control, no significant improvement (8.61%) was observed. Comparison of adjusted post test mean among the groups showed that PG (4.130) and OCG (4.773) had developing better improvement in verbal retention for similar pairs than CG (3.530). The high school girls from the PG groups had developed higher Verbal Retention (Similar Pairs) levels than the girls from the OCG groups.

2.8 Verbal Retention for Dissimilar Pairs

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the verbal retention for dissimilar pairs from pre to post test. The verbal retention for dissimilar pairs

increased in OCG Group from pre test (8.800 ± 2.605) to post test (10.800 ± 2.784) and PG Group from pre test (8.866 ± 2.374) to post test (11.500 ± 1.995), the verbal retention for dissimilar pairs significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the verbal retention for dissimilar pairs owing to the treatment through PG (29.70%), and the improvement of OCG (22.73%) estimated with Scores. In case of Control, no significant improvement (9.72%) was observed. Comparison of adjusted post test mean among the groups showed that PG (11.496) and OCG (10.798) had developing better improvement in verbal retention for dissimilar pairs than CG (7.739). The high school girls from the OCG and PG groups had a similar type of verbal retention (dissimilar pairs).

2.9 Visual Retention

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the visual retention from pre to post test. The visual retention increased in OCG Group from pre test (8.000 ± 3.216) to post test (9.733 ± 2.664) and PG Group from pre test (7.700 ± 1.744) to post test (9.500 ± 1.358), the visual retention significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the visual retention owing to the treatment through PG (23.38%), and the improvement of OCG (21.66%) estimated with Scores. In case of Control, no significant improvement (14.97%) was observed. Comparison of adjusted post test mean among the groups showed that PG (9.456) and OCG (9.609) had developing better improvement in visual retention memory power than CG (8.102). The high school girls from both the groups of PG and OCG had a similar type of visual retention.

2.10 Recognition

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the recognition from pre to post test. The recognition increased in OCG Group from pre test (6.800 ±

2.150) to post test (7.566 ± 1.590) and PG Group from pre test (6.766 ± 2.207) to post test (8.966 ± 0.889), the recognition significantly improved from pre test to post test in the two experimental groups with no change in control group.

The existing investigation confirmed that improvement in the recognition owing to the treatment through PG (32.52%), and the improvement of OCG (11.28%) estimated with Scores. In case of Control, no significant improvement (17.28%) was observed. Comparison of adjusted post test mean among the groups showed that PG (8.982) and OCG (7.584) had developing better improvement in recognition memory power than CG (6.434). The high school girls from the PG groups had developed higher recognition memory power than the girls from the OCG groups.

2.11 Memory Power (Total)

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably improved the memory power (total) from pre to post test. The memory power (total) increased in OCG Group from pre test (63.866 ± 7.695) to post test (73.800 ± 6.440) and PG Group from pre test (65.666 ± 6.614) to post test (81.766 ± 5.103), the memory power (total) significantly improved from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that improvement in the memory power (total) owing to the treatment through PG (24.52%), and the improvement of OCG (15.55%) estimated with Scores. In case of Control, no significant improvement (3.94%) was observed. Comparison of adjusted post test mean among the groups showed that PG (81.428) and OCG (73.738) had developing better improvement in memory power (total) than CG (63.667). The high school girls from the PG groups had developed higher memory power (total) levels than the girls from the OCG groups.

3. FATIGUE LEVEL

3.1 General Fatigue

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably reduced the general fatigue

from pre to post test. The general fatigue decreased in OCG Group from pre test (16.233 ± 3.962) to post test (12.466 ± 3.655) and PG Group from pre test (16.400 ± 3.275) to post test (9.900 ± 3.356), the general fatigue significantly reduced from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that decreased in the general fatigue owing to the treatment through PG (39.63%), and the reduced of OCG (23.21%) estimated with Scores. In case of Control, no significant changes (1.10%) was observed. Comparison of adjusted post test mean among the groups showed that PG (9.696) and OCG (12.339) had reduced in general fatigue than CG (15.731) groups. The high school girls from the PG groups had reduced General Fatigue than the girls from the OCG groups.

3.2 Rest Fatigue

The current investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably reduced the rest fatigue from pre to post test. The rest fatigue decreased in OCG Group from pre test (16.333 ± 3.230) to post test (14.566 ± 5.190) and PG Group from pre test (15.700 ± 3.878) to post test (12.466 ± 4.368), the rest fatigue significantly reduced from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that decreased in the rest fatigue owing to the treatment through PG (20.59%), and the reduced of OCG (10.82%) estimated with Scores. In case of Control, no significant changes (3.59%) was observed. Comparison of adjusted post test mean among the groups showed that PG (12.399) and OCG (13.950) had reduced in rest fatigue than CG (16.051) groups. The high school girls from the PG groups had reduced rest fatigue than the girls from the OCG groups.

3.3 Cognitive Fatigue

The existing investigation explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably reduced the cognitive fatigue from pre to post test. The cognitive fatigue decreased in OCG Group from pre test (14.566 ± 5.190) to post test (15.666 ± 2.170) and PG Group from pre test (12.466 ±

4.368) to post test (13.133 ± 5.373), the cognitive fatigue significantly reduced from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that decreased in the cognitive fatigue owing to the treatment through PG (28.42%), and the reduced of OCG (29.15%) estimated with Scores. In case of Control, no significant changes (3.98%) was observed. Comparison of adjusted post test mean among the groups showed that PG (10.178) and OCG (10.250) had reduced in cognitive fatigue than CG (13.738) groups. The high school girls from both the PG and OCG groups had a similar type of cognitive fatigue.

3.4 Fatigue (Total)

The current analysis explained the values of the experimental and control groups namely Control Group (CG), Omkar Chanting Group (OCG) and Pranayama Group (PG). The OCG and PG groups are considerably reduced the Fatigue (total) from pre to post test. The fatigue (total) decreased in OCG Group from pre test (48.233 ± 6.866) to post test (38.133 ± 9.298) and PG Group from pre test (45.233 ± 4.591) to post test (31.766 ± 7.894), the fatigue (total) significantly reduced from pre test to post test in the two experimental groups with no change in control group.

The current investigation confirmed that decreased in the fatigue (total) owing to the treatment through PG (29.77%), and the reduced of OCG (20.94%) estimated with Scores. In case of Control, no significant changes (0.30%) was observed. Comparison of adjusted post test mean among the groups showed that PG (32.752) and OCG (36.752) had reduced in Fatigue (total) than CG (45.403) groups. The high school girls from the PG groups had reduced fatigue (total) level than the girls from the OCG groups.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

The intention of the research was to find out the advantageous effect of Omkar Chanting and Pranayama breathing on cognitive factors namely Concentration ability, Memory Power and Fatigue level of high school girls. For these purpose, totally ninety (90) school going girls who were not the participants of any training for the past six months were identified as participants of investigation elected as subjects randomly. They were educated at private aided institution that is Sri Basaveshwar Girls High School Bagalket, Karnataka-India during 2018-19 and their age of the participants ranged between 14 to 16 years.

For the present investigation, the pre and post test random group design was considered as experimental design in which 90 (ninety) participants of high school girls were divided into three equal groups. Each group were divided equally that is 30 (thirty) participants that 30 x 3 groups. Participants of Group of 'A' underwent chanting of 'Omkar' with standing breathing exercises completed for six days per week for **sixteen** weeks. Participants of Group of 'B' underwent practice of Pranayama that is yogic breathing with 'Nadi-shodhana' Pranayama, 'Sheetali' Pranayama, 'Shitkari' Pranayama and lastly 'Brahmari' breathing exercises along with standing, sitting and laying down breathing exercises completed for six days per week for **sixteen** weeks. Group of 'C' acted as control group who were not involved any additional training apart from their routine curricular activities.

The data related variables of concentration, memory power and fatigue level were collected from all the said groups before initiation of treatment. The participants of treated groups were treated with respective training programs that is chanting of 'Omkar' chanting and 'Pranayama' for a period of sixteen weeks. After completion of sixteen weeks of said exercises, the post test scores were taken for all the above three groups carefully. The date related to said criterion variables were collected from the said groups that is OCG, PG and CG groups before and after training period and these were analyzed statistically with the help of standard statistical procedures.

5.2 CONCLUSION

On the basis of findings and within the limitations of the study following conclusion was drawn:

1. Significant change found in the concentration ability of school girls of OCG group due to practice of sixteen week practice of Omkar Chanting.
2. Significant changes found in Memory Power dimensions that is remote memory, recent memory, verbal retention for dissimilar pairs, visual retention and overall memory power of school girls of OCG group due to practice of 16 weeks Omkar Chanting practice.
3. Significant changes found in school girls' level of fatigue and its dimensions namely general fatigue, rest fatigue, cognitive fatigue and overall fatigue of OCG group due to practice of 16 week practices of Omkar Chanting.
4. Significant change found in the concentration ability of school girls of OCG group due to practice of sixteen week practices of pranayama.
5. Significant changes found in Memory Power dimensions that is remote memory, recent memory, mental balance, attention, delayed recall, immediate recall, visual retention, recognition and overall memory power of school girls of OCG group due to practice of 16 weeks practice of pranayama.
6. Significant changes found in school girls' level of fatigue and its dimensions namely general fatigue, rest fatigue, cognitive fatigue and overall fatigue of OCG group due to practice of 16 week practice of pranayama.
7. Significant changes in the adjusted post-test mean scores on high school girls' concentration among CG, OCG, and PG groups and the high school girls from the PG groups had developed higher concentration levels than the girls from the OCG groups.
8. Significant changes in the adjusted post-test mean scores on high school girls' remote memory among CG, OCG, and PG groups and the high school girls from both OCG and PG experimental groups had developed similar type of remote memory power.
9. Significant changes in the adjusted post-test mean scores on high school girls' Recent Memory among CG, OCG, and PG groups and the high school girls

from both OCG and PG experimental groups had developed similar type of recent memory power.

10. Significant changes in the adjusted post-test mean scores on high school girls' Mental Balance among CG, OCG, and PG groups and the high school girls from the PG groups had developed higher Mental Balance than the girls from the OCG groups.

11. Significant changes in the adjusted post-test mean scores on high school girls' Attention & Concentration among CG, OCG, and PG groups and the high school girls from the PG groups had developed higher Attention & Concentration levels than the girls from the OCG groups.

12. Significant changes in the adjusted post-test mean scores on high school girls' Delayed Recall among CG, OCG, and PG groups and the high school girls from the PG groups had developed higher Delayed Recall levels than the girls from the OCG groups.

13. Significant changes in the adjusted post-test mean scores on high school girls' Immediate Recall among CG, OCG, and PG groups and the high school girls from the PG groups had developed higher Immediate Recall levels than the girls from the OCG groups.

14. Significant changes in the adjusted post-test mean scores on high school girls' Verbal Retention (Similar Pairs) among CG, OCG, and PG groups and the high school girls from the PG groups had developed higher Verbal Retention (Similar Pairs) levels than the girls from the OCG groups.

15. Significant changes in the adjusted post-test mean scores on high school girls' Verbal Retention (Dissimilar Pairs) among CG, OCG, and PG groups and the high school girls from the OCG and PG groups had a similar type of Verbal Retention (Dissimilar Pairs).

16. Significant changes in the adjusted post-test mean scores on high school girls' Visual Retention among CG, OCG, and PG groups and the high school girls from both the groups of PG and OCG had a similar type of Visual Retention.

17. Significant changes in the adjusted post-test mean scores on high school girls' Recognition among CG, OCG, and PG groups and the high school girls from

the PG groups had developed higher Recognition levels than the girls from the OCG groups.

18. Significant changes in the adjusted post-test mean scores on high school girls' Memory Power (Total) among CG, OCG, and PG groups. The high school girls from the PG groups had developed higher Memory Power (Total) levels than the girls from the OCG groups.
19. Significant changes in the adjusted post-test mean scores on high school girls' General Fatigue among CG, OCG, and PG groups and the high school girls from the PG groups had reduced General Fatigue than the girls from the OCG groups.
20. Significant changes in the adjusted post-test mean scores on high school girls' Rest Fatigue among CG, OCG, and PG groups and the high school girls from the PG groups had reduced Rest Fatigue than the girls from the OCG groups. Significant changes in the adjusted post-test mean scores on high school girls' Cognitive Fatigue among CG, OCG, and PG groups and the high school girls from both the PG and OCG groups had a similar type of cognitive fatigue.
21. Significant changes in the adjusted post-test mean scores on high school girls' Cognitive Fatigue among CG, OCG, and PG groups and the high school girls from both the PG and OCG groups had a similar type of cognitive fatigue.
22. Significant changes in the adjusted post-test mean scores on high school girls' Fatigue among CG, OCG, and PG groups. The high school girls from the PG groups had reduced overall fatigue levels than the girls from the OCG groups.

5.2 RECOMMENDATIONS

Based on the findings of the present study, the researcher suggests the following recommendations:

1. Omkar Chanting and Pranayama exercises could be educated to school girls to get better their concentration, power of memory as well as to reduce their fatigue level.
2. Similar research may be conducted by identifying other cognitive variables such as intelligence like spiritual, emotional, social, attention, etc.
3. The similar research can be extended to high school boys also.

4. Further studies may be extended for the subjects of different age groups, school type and varied sports persons also.
5. Further studies may be conducted by extending detraining and retraining programmes for training consistency of Omkar chanting and Pranayama exercises.
6. This investigation needed to be made stronger or carried by more relevant research studies.
7. Further studies may be conducted in students from sports hostels or sports persons to improve their performance.
8. Further study can be investigated for students who are attending Karnataka State/CBSE/ICSE Board schools and are preparing for the NEET and CET examinations to know their performance.

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